ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Inquiry Concerning the Deployment of	)	CC Docket No. 98-146
Advanced Telecommunications Capability	)	
to All Americans in a Reasonable and	)	
Timely Fashion, and Possible Steps to	)	
Accelerate Such Deployment Pursuant	)	
to Section 706 of the Telecommunications	)	
Act of 1996	)	

COMMENTS OF BELL ATLANTIC

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September 14, 1998

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TABLE OF CONTENTS

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COMMENTS OF BELL ATLANTIC[1]

I. Introduction and Summary.

The Commission's Notice of Inquiry and accompanying Order and Notice of Proposed Rulemaking (collectively "Notices") assume, wrongly, that local telephone companies are the incumbents in offering advanced technology to business and residential customers. Based on that mistaken premise, the Commission concludes that it should extend regulations intended for the existing voice and data network to ADSL and

[1] Bell Atlantic-Delaware, Inc.; Bell Atlantic-Maryland, Inc.; Bell Atlantic-New Jersey, Inc.; Bell Atlantic-Pennsylvania, Inc.; Bell Atlantic-Virginia, Inc.; Bell Atlantic-Washington, D.C., Inc.; Bell Atlantic-West Virginia, Inc.; New York Telephone Company; and New England Telephone and Telegraph Company.

other new technologies. As a result, the Commission is on a path to adopt policies that will delay rather than speed the provision of such advanced technology.

High-Speed Local Access. The policies reflected in the Notices would reduce Bell Atlantic to an engineering and construction company equally at the service of its many competitors. These misguided policies largely ignore the extensive evidence that extending Commission regulation to advanced services will delay their deployment by the local telephone companies and their competitors alike:

- The Notices ignore overwhelming evidence that RBOCs are new entrants into the high-speed data market, well behind cable modems and mainly on a par with other facilities-based entrants. In fact, the Commission never even asks about the extent of cable modem deployment, and instead asks only if the cable monopolists will provide good competition to the Bell companies that have spent billions of dollars opening up their markets.
- The Notices mention only in passing the evidence that Commission rules make it difficult to earn a return of investments in unproven technology with unknown demand that is commensurate with the risks of such investment.
- The Notices ignore evidence that regulatory policies on reciprocal compensation and access to the local loop deter facilities-based investment by competitors by making it more profitable to not build bypass facilities than to build them.
- Perhaps most fundamentally, the Notices never even ask whether the deployment of advanced services on the telephone network will be hindered rather than advanced by

mandating equal access to ADSL equipment and other technologies by all competitors, in light of the technical difficulties of deploying these technologies. In the midst of widespread facilities-based competition, the only technologies that will come larded with regulations and onerous unbundling and resale requirements – and thus will be delayed and disadvantaged – are ADSL and the other advanced technologies provided by local telephone companies. The Commission acknowledges the distortions created by applying different regulatory policies to competing technologies in the NOI, NOI at 2, but then widens that disparity in the NPRM. The Commission's focus on the "last mile" of copper wire is misguided and ultimately harmful. As often happens, generals fight the last war – while competitors blitzkrieg Bell Atlantic by going over and around it with planes and tanks, the Commission fiddles with foot-soldier access to what it wrongly believes is an impregnable Maginot line.

High-Speed Internet Backbones. The Notices define their inquiry into advanced technology almost purely as an exploration of the "last mile," with only perfunctory nods to the extensive evidence presented by Bell Atlantic and others that Internet backbones need upgrading. But the leading authority on backbone performance, Keynote Systems, notes that it is the backbone, traveling at sub-ISDN speed, that will impede the deployment of ADSL and cable modems capable of ten times the backbone's speed.[2] The problems of backbone congestion are real and will grow worse as high-speed local access becomes widespread.

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[2] Press Release, "DSL and Cable Modems Will Not Solve Internet Performance Problems, According to Keynote Systems; Internet Speed Limit Impedes Full Potential of High-Speed Internet Access Over 'The Last Mile,'" www.keynote.com/news/announcements/pr021398.html.

II. There is no "Monopoly Bottleneck" on Advanced Technology.

The Commission's Notices generally assume that Bell companies are entrenched incumbents. This assumption is wrong. Indeed the Commission in a candid moment admits as much, noting that "the incumbent does not currently enjoy the overwhelming market power that it possesses in the conventional circuit-switched voice telephony market." NPRM at 7. As Bell Atlantic demonstrated in its Petition (at 22), the "local bottleneck" that has been used to justify a century of regulation does not exist for advanced technology. Local telephone companies are behind others – in particular the cable companies – in deploying advanced technology.

A. "Advanced Telecommunications Capability" Include Cable Modems and ADSL.

The Commission asks for a generic definition of advanced services. NOI at 6. Section 706(c)(1) defines "advanced telecommunications capability" as "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video communications using any technology." As Bell Atlantic previously explained, the definition at a minimum captures any technology that permits transmissions greater than ISDN speed (greater than 128 kbps). Bell Atlantic Petition at 1-2. While this definition inevitably contains a somewhat arbitrary cut-off (ISDN, for example, can transmit data, voice and video, the last fast enough to permit acceptable videoconferencing), it fairly captures technologies such as cable modems and ADSL that allow high-speed connections over the Internet sufficient to satisfy virtually any residential user and that are relatively recent in origin.

B. Cable Companies Are the Incumbents in Advanced Services.

Cable companies are the incumbent providers of high-speed service to residential customers, and Bell Atlantic is only one of several new competitors now emerging. Competition for residential advanced services is uniquely evident in Bell Atlantic's densely populated region: cable modems are or will be available in all major Northeastern metropolitan centers, while RCN is building high-speed fiber links to many residential customers in the Boston-Washington corridor. Furthermore, business customers already are served by fiber-based CLECs such as AT&T/Teleport that lay claim to being the leaders in advanced services, ALTS Petition at ii, and by wireless broadband competitors Winstar and Teligent. As a result, even if many areas of the country do not have widespread competition for broadband access, Bell Atlantic's region does. Attachment A discusses in detail the numerous current and near-term broadband competitors in Bell Atlantic's region.

- Cable.

Cable modems are the incumbent provider of high-speed broadband services. While Bell Atlantic is on the verge of deploying ADSL, cable modems have been rolled out throughout the Northeast. As Attachment A details, the list of current and near-term cable modem deployments covers most of the densely populated sections of the Northeast corridor. Comcast, for example, already has 30,000 subscribers in the mid-Atlantic region alone, MediaOne has wired most of Boston, and Cablevision is rapidly ugrading its systems to serve the New York metropolitan area. Penetration rates for cable modems

are very high, as well – estimated to be 7% of all Time-Warner customers in Portland, Maine, for example.

Cable modem roll-outs will accelerate as the industry continues to move – quickly – to upgrade cable plants for high-speed broadband. One analyst predicts that 63 percent of all cable systems will be broadband-ready by the year 2001.[3] In Bell Atlantic's region the number may be higher, given the aggressive network modernization programs underway by Comcast and others.[4]

Many industry analysts believe cable modems will continue to lead the residential advanced services market for the foreseeable future. The Forrester Group released a report this month that predicts cable modems will capture 80% of the market. The report notes that DSL technology has been delayed by "competing technologies, a lack of standards, and high equipment costs."[5] The consultancy Forward Concepts reached a virtually identical conclusion, predicting that by the year 2003 9.6 million cable modems will be deployed and only 1.86 million ADSL modems.[6]

Strangely, the Commission in the NOI did not ask for information on current deployment of cable modems, the number of subscribers, or other information relevant to ascertaining whether cable is the current high-speed incumbent. Instead, it asks only

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[3] Allied Business Intelligence Press Release, www.alliedworld.com at CATV98.pdf release.

[4] Comcast's President Brian Roberts predicted last year that Comcast would complete upgrades on eighty-five percent of its network for broadband by the end of 1998. S. Hamm, Microsoft: Cash to Burn and It's Just the Start, ZDNet News (June 10, 1997).

[5] Business Wire, "High Speed Internet Access to Reach 16 Million U.S. Households by 2002, According to Forrester" Sept. 1, 1998.

[6] "Study Sees Cable Modem Deployments Surpassing ADSL Installations by 2003," Broadband Networking News (Aug. 4, 1998).

whether cable modems are technically advanced enough to permit the deployment of high-speed services. NOI at 14-15. The question the Commission should have asked is: How can it create competition with the cable monopolists – who have raised prices well above the rate of inflation, have no unbundling or resale requirements, and have not spent the collective billions of dollars telephone companies have to give competitors access to their network?

- Fiber to the home.

RCN is laying fiber to 9 million customers in the dense Boston/Washington corridor and has passed 122,000 homes with "advanced fiber."

- Wireless.

Winstar and Teligent are building nationwide wireless broadband systems that will reach the majority of business customers. When fully operational by next year, these systems are expected by some analysts to be the cheapest wireless broadband delivery medium available – cheaper than copper, for example.

- CLECs.

The CLECs all have rolled out high-speed T-1 and T-3 access to business customers and Internet service providers.

- Satellite.

Hughes DirecPC enables users everywhere today to download the World Wide Web at 400 kbps using DirecPC. The company plans to roll out a two-way, high-speed service in a year. In a few years most households in Bell Atlantic's region will be able to receive high-speed broadband connections from Teledesic, with two-way connections

that provide up to 64 Mbps on the downlink and up to 2 Mbps on the uplink. Finally, analysts believe local multipoint distribution service ("LMDS") "will surely compete with CATV data and DSL within a multitude of metropolitan areas throughout the United States, and current indications are that it will prove a strong competitor."[7]

- Utilities.

Electric companies are perfecting technologies to offer high-speed broadband through the power lines, and ten utilities around the world have agreed to test the technology.

C. The Commission Should Regulate Advanced Services Similarly Given the Lack of a Monopoly Bottleneck.

While today cable companies and RCN are the only advanced technology incumbents in the Northeast, over the next few years there will be no fewer than four or five facilities-based, high-speed links into many homes: Cable, RCN's fiber to the home, ADSL over copper, satellite and wireless technologies, and possibly even high-speed Internet over power lines will provide numerous competing choices. The regulatory structure should reflect the large scale of facilities-based alternatives – advanced services should be regulated more lightly, and without the same encumbrances as plain old telephone service. There simply is no "monopoly bottleneck" justification for extending broadly the Commission's regulation to high-speed services. Furthermore, the regulatory structure should be technology neutral. Unfortunately, the Commission's layers of regulatory flypaper around ADSL indicate that it is technology-biased against any service that might be deployed by local telephone companies.

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[7] Www:americasnetwork.com/issues/98issues/980801/980801_lmds.html.

III. Larding ADSL and Other Advanced Technologies with Regulations Will Harm Deployment of Advanced Services.

The Commission asks how it can encourage the deployment of advanced services by Bell companies and competitors. The answer is that it can do so by removing regulatory constraints that create a serious disincentive to the deployment of advanced technology both by Bell Atlantic and by its competitors.

A. Commission Rules Will Deter Investment By All Competitors.

Numerous investment-deterring regulatory policies already retard the deployment of advanced services by all competitors.

1. As Bell Atlantic previously explained, state decisions requiring the payment of "reciprocal compensation" for Internet traffic have the perverse effect of actually paying competing carriers for not investing in competing facilities. Competitors make more money sitting near a Bell Atlantic central office and receiving payment for terminating the one-way calls than they do building facilities to originate minutes. Indeed, the CLECs may be guilty of committing fraud in obtaining and using NXX codes in order to maintain the fiction that the CLECs have built facilities in the same local calling area as Bell Atlantic rather than actually siting facilities in each calling area.[8]

2. Requiring local telephone companies to provide cost-based access to new equipment used to provide advanced services likewise will retard deployment of advanced competing facilities. Where competing carriers can simply lease the incumbents' investment at unbundled rates, the competing carriers have little incentive to

take the business risk of making their own investment in advanced technologies to compete with the incumbent. Comments of Bell Atlantic on ALTS Petition at 6-8.

In contrast, companies like Winstar and Teligent that want to actually make facilities investments can only thrive if they do not have to contend with prices artificially depressed by regulation. If local telephone companies do not roll out advanced technology, or do so at a high price, that will serve only to accelerate entry by these facilities-based competitors.[9] Indeed, it is well-understood in economics and antitrust that high prices attract entry. Hovenkamp, Federal Antitrust Policy, at 243.

B. Regulation of Advanced Technology Deployed by Telephone Companies Will Delay Deployment.

Nothing will slow down the deployment of advanced technology faster than applying the investment-deterring rules currently applicable to traditional telephone service.

1. The Commission's Proposed Regulation Will Delay ADSL Roll-Out.

Regulation has destroyed or significantly delayed past attempts to roll out new telecommunications technology. Several studies have detailed the costs to consumers of Commission actions that impeded the deployment of key technologies. For example, Professor Jerry Hausman estimates that Commission regulations that impeded the early

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[8] Letter from Patricia E. Koch to Magalie Roman Salas re: Docket CCB/CPD 97-30, Reciprocal Compensation (Aug. 5, 1998).

[9] For this same reason, commenters are wrong that Bell companies will not roll out ADSL aggressively for fear of cannibalizing T-1 sales. See, e.g., "Despite Advances, Telcos Still Face DSL Obstacles," Multichannel News (Aug. 3, 1998). Failing to do so would merely promote entry for the Winstars and Teligents of the world.

development of cellular services cost consumers $100 billion. Hausman, "Valuing the Effect of Regulation on New Services in Telecommunications" 3 (1997). He further noted that "[r]egulation, as currently implemented, may well be unable to keep up with the fast-paced changes in telecommunications technology." Id. at 36.

The most recent example is attempts to deploy video capable technologies to compete with the cable companies. The Commission first promulgated videodialtone rules in 1992, but by the end of 1994 had approved only one non-experimental application. Thorne et al., Federal Broadband Law at 105-6. The slow regulatory pace and complicated regulatory requirements, when combined with rapidly changing technology, eventually made videodialtone irrelevant. ISDN too was delayed in part by regulatory battles.[10]

In many ways past is prologue; the attempt to roll out an advanced product – ADSL – is wallowing in regulatory goo. As with videodialtone and ISDN, regulation is not the only culprit hampering roll-out: competing standards, tricky technical issues, and uncertain demand also play a role. But it is the existence of all these other difficult issues that makes the overlay of Commission micro-regulation so disastrous.

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[10] Both federal and state regulators have changed regulatory course on ISDN several times. The Commission, for example, first ordered a subscriber line charge imposed on each of three ISDN channels, but later determined to impose only one such charge on all three channels. Action, Common Carrier Bureau Will Not Enforce Current Rules on Application of Subscriber Line Charges to ISDN Service, 10 FCC Rcd 13473 (1995), reversing, In the Matter of NYNEX Telephone Companies, Revisions to Tariff F.C.C. No. 1, Transmittal No. 116, Memorandum Opinion and Order, 7 FCC Rcd 7938 (1992), aff'd on recon., 10 FCC Rcd 2247 (1995). The Commission later changed the amount of the subscriber line charge. First Report & Order at ¶ 116, Access Charge Reform, FCC 97-158, CC Dkt. No. 96-262 (F.C.C. rel. May 16, 1997).

Independent observers agree that the Commission's regulations are delaying ADSL roll-out. The Forward Concepts report handicaps ADSL compared to cable in part due to concern about regulatory hurdles.[11] It is, of course, impossible to quantify with precision the additional delays and headaches that will result from battles over recently-mandated equal access for all competitors to ADSL electronics and other advanced technologies. But the delay will be real.

The Commission's hasty directive to make Bell Atlantic condition all loops at the demand of competitors is a prime example of a Commission policy that will hamper the roll-out of advanced networks. While removing bridge taps and load coils may sound relatively easy and straightforward in the abstract, their removal can create serious problems with the quality of local loops if not undertaken carefully and sparingly. "Biting the ADSL Bullet," America's Network, August 15, 1998. Furthermore, even under the best of circumstances, loop characteristics and thus ADSL speeds can vary dramatically. See, e.g., "Networks: XDSL, ADSL: What to Expect," LAN Magazine (Sept. 1, 1997). Competitors told that local loops cannot be conditioned or that experience what they consider inadequate ADSL speeds almost certainly will claim discrimination, and by doing so will create further delay.

Loop conditioning is only the tip of the iceberg. If the current policies hold, the Commission no doubt will spend its days and years adjudicating disputes on issues ranging from interference among different ADSL technologies to equality of access to limited numbers of binder groups to space in remote terminals. The copper plant,

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[11] "Study Sees Cable Modem Deployments Surpassing ADSL Installations by 2003," Broadband Networking News (Aug. 4, 1998).

operations support systems, and virtually everything else in the telephone network were built at a time when no one expected or planned for either competition or ADSL, so each new regulatory ukase requiring more work on these systems leads inevitably to more cost and more delay. Indeed, Bell Atlantic no doubt will spend a good part of the next years making its network equally available to everybody rather than actually rolling out its services in competition with the cable incumbents and multitude of other entrants bypassing the last copper mile.

The end result of the Commission's micromanagement of ADSL and other technologies deployed by advanced local telephone companies will be a serious diminution in consumer choice for high-speed broadband services. None of Bell Atlantic's ADSL competitors target residential customers. Bell Atlantic 706 Reply Comments at 20-22. As a result, consumers will have the worst of both worlds: slower local telephone company deployment of ADSL, with little entry by ADSL competitors.

Finally, it is at least passingly strange that the Commission does not ask the same question of ADSL that a recent report entitled "Internet Over Cable" does of cable modems – whether the goal of speeding broadband data capabilities by encouraging high-speed cable deployment outweighs its goal of nondiscrimination for all competitors. "Internet Over Cable," OPP Working Paper Series (Aug. 1998) at 96. The Commission apparently understands that larding technologies with regulations, rather than taking steps to encourage them, can delay roll-out, but it neglects to make this a key issue in the NOI.

2. Existing Rules Undermine Incentives to Invest in Risky Technology.

Existing regulations also undermine investment incentives by creating a less favorable risk/reward calculus when investing in advanced technologies. Unlike RCN, for example, that can build fiber to the home knowing it need not share its investment rewards with others and can price its product at market, any investment in advanced technology by local telephone companies would have to be made available to competitors at TELRIC discounts, effectively eliminating their ability to benefit from taking the risk. The equipment suppliers, who are most directly affected by overall investment levels, understand the investment-deterring nature of the Commission's rules: Cisco, NextLevel and Compaq all filed comments explaining that releasing local telephone companies from regulatory restraints will allow them to innovate and lead to more equipment supply, not less. Bell Atlantic 706 Reply at 1. Economists agree.[12]

Some opponents of Bell companies claim that the Commission should not change its policies because the Bell companies are "slow" to deploy such services in any event. But, given existing regulatory requirements, Bell Atlantic has been quick to deploy new technology. Bell Atlantic 706 Reply at 3. Take ISDN. ISDN was hampered by conflicting standards peddled by competing vendors, technical issues that required custom installation by Bell company technicians on house visits, and intrusive rate regulation. Notwithstanding these problems, Bell Atlantic pushed ISDN aggressively and has made fast 128 kilobits per second access ubiquitous throughout its region.

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[12] As Dr. Robert Crandall and Charles Jackson explain, pervasive DSL regulation takes away key Bell company incentives to invest in the technology. Crandall & Jackson,

IV. Sunset.

The Commission recognizes that "the incumbent does not currently enjoy the overwhelming market power that it possesses in the conventional circuit-switched voice telephony market." NPRM at 7. Bell Atlantic actually does not possess any market power, but the basic point is right: advanced services are not susceptible to the same analysis as POTS. If the Commission determines (as it should) that cable modems are the advanced technology incumbent, that RCN really has passed over 120,000 homes with fiber capable of carrying 51 megabits per second and will wire millions more in the next few years, and that numerous other wireless and satellite competitors are here today or on the horizon, then the Commission should deregulate advanced services over copper loops now. If the Commission is unwilling to take off the regulatory harness now, it should at least insert a sunset provision taking the harness off by the year 2000, when the many emerging forms of facilities-bypass will have reached maturity.

V. Backbone Congestion and Concentration is Real.

The Commission asks for comment on backbone congestion and concentration, NOI at 10, but apparently prejudged the issue in the NPRM (". . . information generally moves very quickly across the high-speed backbone of the Internet"). NPRM at 6. The evidence is to the contrary. As any number of observers have explained, the problems of congestion and concentration in the backbone are real, and some believe the Internet

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"Eliminating Barriers to DSL Service" (July 1998), attached to Letter from United States Telephone Association to Magalie Roman Salas (Aug. 12, 1998).

operates much more slowly than even the statistics Bell Atlantic has cited from Keynote Systems showing the backbone traveling at sub-ISDN speeds.

A. The Backbone Is Congested.

Today the backbones that carry Internet traffic do not move very fast, where they go at all.

In some areas, particularly rural areas, no high-speed Internet backbone exists. See Emergency Request of Bell Atlantic - West Virginia for Interim Relief (July 22, 1998). The list of areas without adequate backbone service includes West Virginia, much of Northern New England, the Berkshire mountains, part of upstate New York, and many rural areas of Pennsylvania and Virginia. Bell Atlantic 706 Reply Comments at 10-13.

Furthermore, slow speeds bedevil even major backbone routes. Internet performance varies widely between cities, and overall is sluggish – below ISDN speeds and well below the speeds that advanced technologies such as cable modems and ADSL offer.[13] Keynote's measurements factor out the influence of the "last mile" because it measures backbone speed using T-1s.

Bob Metcalfe, an industry guru who in the past has been critical of the local telephone companies, notes that the Internet is actually much slower than Keynote's average measurements suggest. First, Keynote ignores all failures in which users receive no response at all because of lost packets and incomplete downloads. But a great part of

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[13] Press Release, "DSL and Cable Modems Will Not Solve Internet Performance Problems, According to Keynote Systems; Internet Speed Limit Impedes Full Potential of

consumer frustration with the Internet and the perception of the "World Wide Wait" comes from these frequent and agonizingly long "no response" failures.[14] Second, Keynote uses an "average" figure that includes measurements in the middle of the day and in the witching hours. At peak times, which by definition is when most users try to access the Internet, speeds generally are lower. Finally, even assuming that Keynote's averages fairly reflected the World Wide Wait, the average speed is unacceptable – it should not take twenty seconds for the average home page to download over a T-1 line.[15]

It should not be surprising, then, that WorldCom and other commenters did not provide empirical rebuttal to the evidence of slow Internet backbones presented by Bell Atlantic in the Section 706 petition. Indeed, AT&T acknowledged that backbone problems exist, while MCI's lawyers threatened to sue students who were publishing free Internet backbone performance statistics. Bell Atlantic 706 Reply Comments at 14-17.

Bell Atlantic noted in earlier filings that the rapid growth of high-speed local access will exacerbate the already significant problems in the backbone. John Sidgmore, Vice Chairman of WorldCom, recently noted that "[w]e haven't seen the worst of bandwidth consumption yet. . . . If you're not scared, then you don't understand."[16] Not surprisingly, the businesses building interLATA backbone capacity now are attracting record levels of capital, something they could only do if the market perceives

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High-Speed Internet Access Over 'The Last Mile,'" www.keynote.com/news/announcements/pr021398.html.

[14] As Bell Atlantic previously noted, its network is engineered to the highest quality standards, and users often unfairly blame it for problems that occur elsewhere in the Internet, such as lost packets and no responses in the Internet backbone networks and busy signals from ISPs. White Paper at 48.

[15] Metcalfe, "From the Ether," www.infoworld.com/cgi-bin/displayNew.pl?/metcalfe/980330bm.htm.

shortages both now and for the foreseeable future (which it does). Bell Atlantic 706 Reply Comments at 16-17. These very same companies predict the expanding use of "bandwidth-intensive applications that will quickly absorb all the new capacity coming on line." TR Daily, "Qwest, Williams, RCN CEOs Discount Capacity Glut" (Sept. 1, 1998).

The Commission's own logic counsels that backbone usage will skyrocket. The Commission apparently believes that high-speed access has yet to come to the last mile: "Much of today's network, especially the copper mile that ends in the residential consumers' premises – the so-called "last mile" – is not broad enough to be called 'advanced.'" NOI at 1. If that is true, then the amount of traffic that currently is being pumped over the Internet backbone will expand exponentially when high-speed last mile access becomes widespread.

B. The Backbone Industry is Concentrated.

The backbone industry itself is concentrated. Only after MCI divested its backbone would antitrust authorities permit WorldCom and MCI to merge. Antitrust Division Press Release, "Justice Department Clears WorldCom/MCI Merger After MCI Agrees to Sell its Internet Business" (July 15, 1998) (Assistant U.S. Attorney General Joel Klein noted that "[t]he merger as originally proposed would have given WorldCom/MCI a significant proportion of the nation's Internet traffic, giving the company the ability to cut off or reduce the quality of Internet services that it provided to its rivals"). Even now three major backbones – UUNet, MCI (Cable & Wireless), and

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[16] "Net Industry Puts on a Show," Network World, 68 (May 11, 1998).

Sprint – dominate the market, with GTE Internetworking the fourth and smallest among peers. Entry by Bell Atlantic now, and later in conjunction with GTE, will greatly improve competition and therefore innovation in the backbone.

VI. Conclusion.

The Commission should broaden its inquiry into advanced telecommunications capability in two key respects. First, it should shift its focus on advanced technology to technology-neutrality: the issue is not how to encourage competition to nascent telephone company services, but to evaluate fairly who is deploying advanced technology. Thus the Commission should undertake a detailed analysis of cable company deployment of cable modems. Furthermore, it should consider the regulatory implications of numerous competing wires and waves into the home, and be prepared to sunset regulations when it becomes clear that phone companies do not have market power in the advanced service market. Finally, it should ensure that its regulatory policies encourage local telephone company deployment of advanced technology and do not deter facilities-bypass.

Second, the Commission should rethink its brush-aside of Internet backbone issues. Industry experts, from John Sidgmore to Keynote Systems to Bob Metcalfe, take the problems in the backbones very seriously. The Commission should too.

Respectfully Submitted,

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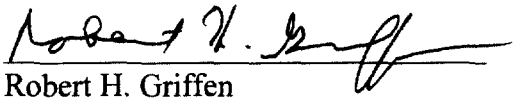

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September 14, 1998

CERTIFICATE OF SERVICE

I, Annegret P. Weckerle, hereby certify that a copy of "Comments of Bell Atlantic" was served this September 14, 1998, by mailing true copies thereof, postage prepaid, to the individuals on the attached service list.

Annegret P. Weckerle

* Via hand delivery.

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